

WHAT IS CLAIMED IS:

1. A circuit device comprising: conductive patterns separated by separation groove; circuit element, affixed onto the conductive pattern; and an insulating resin, covering the  
5 circuit elements and the conductive patterns and filling the separation grooves while exposing the rear surfaces of the conductive patterns;

wherein constricted part is formed at side surface of the separation groove and the insulating resin is adhered to  
10 the constricted part.

2. The device of Claim 1, wherein the thickness of the conductive patterns is made thicker than the width of the separation groove.

3. The device of Claim 1, wherein the constricted part  
15 are formed continuously across side surface of the separation grooves.

4. The device of Claim 1, wherein the rear surface and part of the side surface of the conductive patterns are exposed from the insulating resin.

20 5. The device of Claim 1, wherein the separation groove is formed of a first separation groove formed by a first time of etching and a second separation groove formed by a second time of etching, with the cross section of the second separation

groove being greater than the cross section of the first separation groove.

6. A circuit device comprising: conductive patterns separated by separation groove; circuit element, affixed onto  
5 the conductive pattern; and an insulating resin, covering the circuit element and the conductive patterns and filling the separation groove while exposing the rear surfaces of the conductive patterns;

wherein the separation groove is formed of a plurality  
10 of grooves formed by etching a plurality of times.

7. The device of Claim 6, wherein the thickness of the conductive patterns is made thicker than the width of the separation groove.

8. The device of Claim 6, wherein the rear surface and  
15 part of the side surface of the conductive patterns are exposed from the insulating resin.

9. The device of Claim 6, wherein the separation groove is formed of a first separation groove formed by a first time of etching and a second separation groove formed by a second  
20 time of etching, with the cross section of the second separation groove being greater than the cross section of the first separation groove.

10. A circuit device manufacturing method comprising:

forming conductive patterns by forming separation grooves at locations of a conductive foil except locations that are to be the conductive patterns; positioning circuit element on the conductive pattern; and forming an insulating resin so as to  
5 cover the circuit element and fill the separation groove;

wherein constricted part is formed on side surfaces of the separation grooves by a plurality of times of etching and the insulating resin is adhered to the constricted part.

11. The method of Claim 10, wherein

10 the separation groove is formed by forming a first resist on the surface of the conductive foil so as to cover regions to be the conductive patterns and then performing etching, and the separation groove is formed deeply to form the constricted part by exposing the bottom part of the separation  
15 grooves, forming a second resist on the surface of the conductive foil, and performing etching again.

12. The method of Claim 11, wherein the same mask as the mask used for exposure of the first resist is used for exposure of the second resist to make the second resist remain on side  
20 surface of the separation groove.

13. The method of Claim 11, wherein the opening width of the second resist is made narrower than the opening width of the first resist to make the second resist remain on side

surface of the separation grooves.

14. The method of Claim 10, wherein

the separation groove is formed by forming a first resist  
on the surface of the conductive foil so as to cover regions  
5 to be the conductive patterns and then performing etching,  
and after covering side surface of the separation groove  
by the first resist softened by heating, etching is performed  
again.

15. The method of Claim 11, wherein the second resist  
10 is formed by vacuum lamination.

16. The method of Claim 10, wherein the rear surface of  
the conductive foil is removed until the insulating resin filling  
the separation groove becomes exposed.

17. The method of Claim 10, wherein the rear surface of  
15 the conductive foil is removed selectively at locations at which  
the separation groove is provided until the insulating resin  
filling the separation groove becomes exposed.